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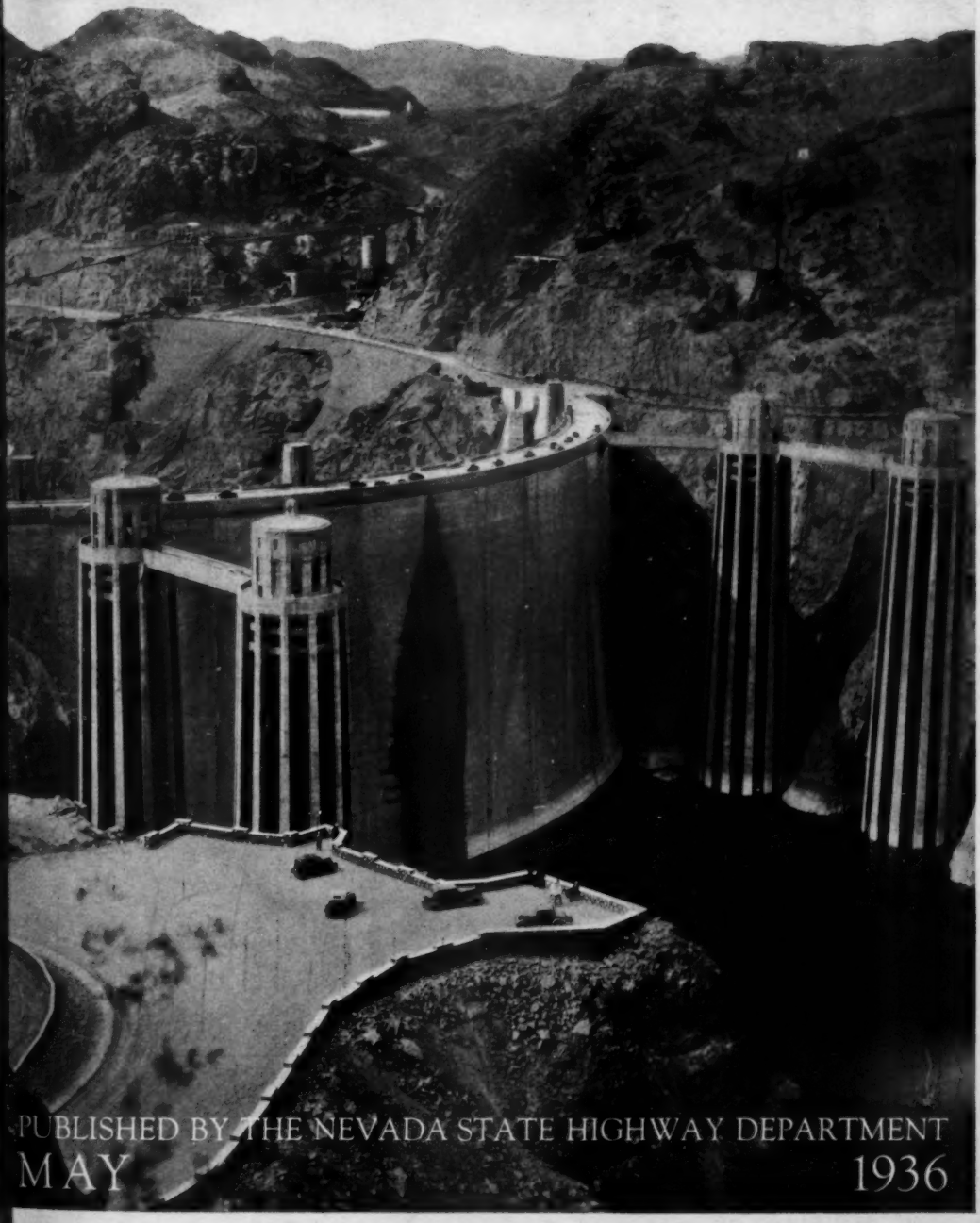
NEVADA
HIGHWAYS AND PARKS



PUBLISHED BY THE NEVADA STATE HIGHWAY DEPARTMENT
MAY 1936

When the snow line moves closer to the summits of the surrounding mountains—best time begins about June—its time to polish up the old fishin' rod and sneak down to Topaz Lake, in Mineral County, Nevada. A good day's fishing is in store for you.

Or, if you prefer, try Walker Lake, pictured above, in northwestern Mineral County. Besides having a beautiful mountain setting the landing of a good-sized trout or Walker Lake bass on these fishing grounds promises plenty of thrill and enjoyment.

NEVADA HIGHWAYS AND PARKS

OFFICIAL PUBLICATION OF THE
NEVADA STATE HIGHWAY DEPARTMENT
CARSON CITY, NEVADA

VOLUME I MAY, 1936 NUMBER 3

BOULDER DAM ALSO "BUILDS" A BRIDGE

BOULDER DAM in its completed stage fulfills two major functions. Primarily, it dams the Colorado river for flood control and electric power generation; incidentally it affords a "bridge" across the river to join two States. The incidental result is destined to develop into a function of primary importance. Connecting the States of Nevada and Arizona, the 45-foot-wide crest of the dam provides a boulevard - link which, in a broader aspect, joins the north rim with the south rim of the Grand Canyon—Rio Colorado's masterpiece of sculpture.

Its importance as a "bridge" may be visualized from the fact that more than 10,000 persons in automobiles had crossed on the dam, from the south, within a few weeks after the "bridge" was thrown open for the use of vehicular traffic. This auspicious beginning is confidently believed to be the forerunner of a greatly increased travel using the facilities afforded by the 727-foot-high block of concrete, cementing together improved roads on both sides of the river.

In view of the mountainous terrain through which the Colorado River shapes its course and the adjacent sparsely settled country, very few bridges span this turbulent, muddy river. In fact, there is but one bridge-crossing between Green River, Utah, and Needles, California, a distance approximating 500 miles. Until man, with brains and machinery, cement and sand, steel and timber, poured 4,364,900 cubic yards of concrete into the gigantic hole at Black Canyon, 30 miles east of Las Vegas, Nevada, and completed the job two years ahead of contract time, the Navajo bridge, near Lee's Ferry in northern Arizona, provided the only crossing.

Because of the many gorges and rapids, the precipitous character of the rocky walls, in some places extending 2,000 feet straight up from the water's edge, the high, rough country stretching away from the stream bed in all directions, travelers afoot, astride or a la motor car had little choice of crossing the river without journeying hundreds of miles.

The $115,000,000 "bridge" at Black Canyon alters that situation.

Boulder Canyon was the original site contemplated for the dam, but greater advantages were found to exist at Black Canyon. Consequently the latter was selected. Nevertheless the original appellation has persisted. Boulder Canyon lies a few miles upstream from Black Canyon.

Besides stopping periodical floods which destroyed crops—the monetary loss from this occurrence in the lower valleys in 1934, alone, was $10,000,000 — Boulder Dam reservoir will store sufficient water to irrigate over 2,000,000 acres of land, when and if needed, in the Pacific southwest in the future.

Besides having a rated capacity for the generation of 1,800,000 horsepower of

electrical energy, Boulder Dam joins two high-gear highways between Las Vegas and Boulder City, in Nevada, with Kingman, Arizona, to form a new approach to the south rim of the Grand Canyon.

Besides creating the largest artificial lake in the world, 115 miles long, covering 145,000 acres, containing over 30,000,000 acre feet of water, Boulder Dam also completes a highway loop which ties together the greatest scenic section in the Nation, if not in the world.

Besides backing up water in a reservoir that holds enough water to cover a flat area as large as the entire State of Connecticut to a depth of 10 feet, Mead Lake establishes commercial transportation facilities which supply the incentive for exploring rich mineralized sections of Nevada that have been inaccessible until now.

Besides presenting a key which will unlock and disclose to mankind a great treasure house of majestic and gorgeous mountain scenery, the resulting lake behind Boulder Dam will likewise provide recreational facilities, such as fishing, boating, and swimming, on a scale never before enjoyed by the people living in this arid southwestern region. Already possibilities along this line have become realities, for fish have been stocked in Boulder Lake (now Mead Lake), boat clubs organized in the neighboring communities—an outboard motorboat regatta was held on the lake April 5—and bathing beaches have been selected and conditioned to carry out ambitious plans.

Nevada, sensing the importance and future possibilities of this extensive area, both from a commercial and recreational viewpoint, has vigorously and successfully pushed plans for placing all roads pointing toward the dam in prime condition.

Principal of these is the Arrowhead Trail (U S 91), a hard-surfaced highway, with ample width for all kinds of traffic. This important arterial traverses the southeastern section of the State for a distance of 128 miles, and provides the most direct route, for motor travel, to the new structure across the Colorado River.

Our Cover Illustration

SHOWS the upstream side of Boulder Dam in its completed stage. Note the water mark on the dam and intake towers, near the bottom, indicating a fall from the river's high level. This year's runoff is expected to push the level much higher up the face. The dark patch in the center is caused by moisture from water flowing out of the pipe near the top.

In addition to serving the Boulder Dam area, the "Trail" contacts many points of scenic interest located in that section of Nevada.

Shortly after entering the State at Mesquite, this highway serves the Valley of Fire district, near Overton, where strange and peculiarly weathered massive rocks are found in a valley six miles long and three to four miles wide, rimmed 'round by deep red-colored sandstone mountains. In the Valley of Fire, a unit of the Nevada State Parks System, travelers can see numerous specimens of petroglyphs carved on the faces of rocks, together with relics and artifacts of the prehistoric people who once lived in this southwestern country.

Near St. Thomas, a small community which will soon become submerged by the encroaching waters of Mead Lake, explorers, some years ago, in an old gypsum cave, unearthed hundreds of specimens. These reminders of our prehistoric ancestors, consisting of pottery, baskets, arrows, and sandals, to mention only a few, have been collected and classified and placed on public display in a museum at Overton.

At Glendale, 50 miles northeast of Las Vegas, the Arrowhead Trail forms a junction with one of Nevada's most important north and south routes (Nevada 7, U S 93), leading to the zinc-lead mining districts near Pioche, the copper districts in White Pine County, and to the playgrounds in the Yellowstone Park area.

Pioche will have the distinction of being the first community served by electrical power generated in the U-shaped $38,200,000 plant in the pit of the canyon at the foot of the dam. Contracts for the copper cable, and its cross-country extension, have been let, and work is progressing rapidly on this 180-mile transmission line. From the terminals at Pioche, this Colorado river generated power will reach directly to the machinery in the ore reduction plants and mines, as well as serve the adjacent communities with light, heat and power.

With a rising copper market Boulder Dam power will go into the Ely district.

After passing through Glendale the Arrowhead Trail strikes southwestward to Las Vegas and from there a good road serves Boulder City, the Government-built town which housed 4,000 workmen engaged on the project. Constructed at a cost of $1,700,000 this modern city was the center of activity during the progress of the work, started March 11, 1931, and officially turned over, as completed, to the Federal Government on March 1, this year. Boulder City also has a rail connection with Las Vegas.

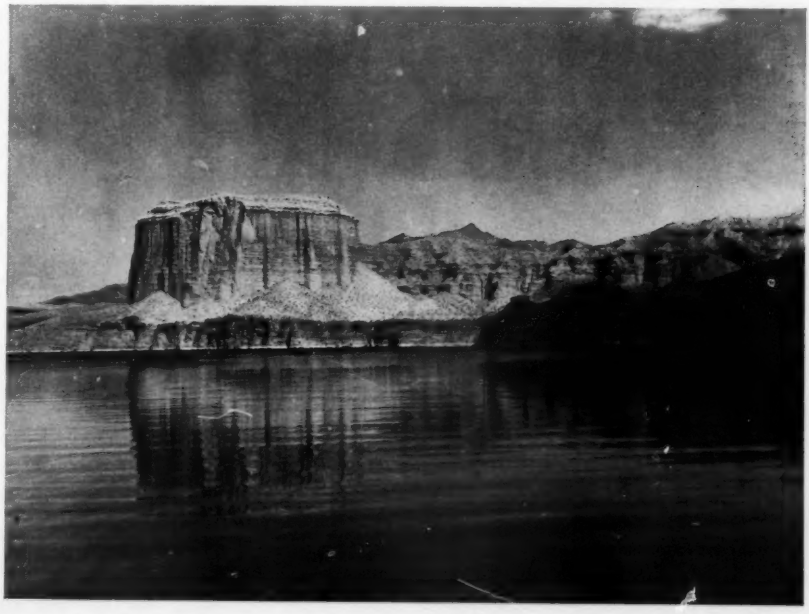
Boulder City is completely equipped with stores, restaurants, a theater, an excellent hotel, and all other appurtenances which go to make up a modern city.

Since traffic across the dam has been opened to the public, a new loop connecting the south rim of the Grand Canyon with the north rim has been completed.

This connection toward the north is made at Lee's Ferry from which place a road continues to the Kaibab Forest, Zion National Park, Bryce Canyon National Park, and the Cedar Breaks National Monument, in Utah, places of outstanding scenic interest.

Bearing away from the Arrowhead Trail at Las Vegas, a modern city of nearly 10,000 people, another important north-south unit, Nevada State Route 5, forms the arterial between Tonopah and Goldfield, two famous old mining camps, still producing; Hawthorne, where the Federal Government maintains a naval ammunition supply depot; Carson City, the State capital, and Reno, the metropolis of the State.

Northwest out of Las Vegas, on State Route 5, a branching road leads into the Charleston Park area, in Nevada, and another is the Death Valley, California, region, both marvellous seasonal playgrounds. [*Please turn to page 16*]



Until Boulder Dam checked the swift current in the Colorado river, not many persons had the opportunity of seeing this unique, laminated rock formation known as the Temple. Located on the Nevada side of the river, near the Arizona boundary line, about 100 miles upstream, it now has been made readily accessible by motor boat.

Three stages of construction progress of the Wendover Overpass, crossing the Western Pacific Railroad in eastern Elko County, Nevada. This is one of two structures in the Nation first to be completed under the Works Program Grade Crossing Elimination Project classification. A unit of U. S. Highway 93, it cost approximately $55,000.

NATION, STATE GAIN BY ROAD FUNDS

UNCLE SAM owns more than four fifths of all the land in the State of Nevada. Furthermore, Nevada, the sixth State in size of geographical area has the smallest population of all the States of the Union.

With an area of over 71,000,000 acres of land and 556,000 acres of water surface, the aggregate amount of land still retained by the Federal Government as the public domain approximates 62,000,000 acres or over 86.83 percent of the total.

Of this great empire, greater even than some of the European nations, Federal forest lands comprise approximately 5,000,000 acres; unappropriated and unreserved public domain includes the vast acreage of over 51,000,000; while Indian lands, set aside for various Indian reservations, comprise 760,000, and miscellaneous Federal lands are embraced in a total of 5,711,317 acres.

This widespread extent of Government land dwarfs by comparison the approximately 4,000,000 acres held as privately owned lands, and a similar acreage held by railroads operating in the State, a total of 8,342,744 acres, or 11.57 percent.

From the above figures, taken from Government statistics of 1935, it is quite easy to see that Nevada's problem of road building differs materially from many other States.

Construction of good roads over this broad expanse of territory having long stretches of uncultivated and unpopulated lands, resolved itself into a huge financial burden. A burden which the State's 100,000 people could not undertake by themselves.

Because of the important tie-in with transcontinental routes, such as the Lincoln Highway, the Victory Highway and the Arrowhead Trail, supplemented by several north and south units, including the Yellowstone to Yosemite route, and primary roads connecting Idaho with southern Nevada, great benefits accruing to the Federal highway transportation system would be shared by Nevada in the extension and improvement of these highways across the length and breadth of the State.

1917	$64,398
1918	128,797
1919	836,163
1920	1,221,574
1921	1,276,344
1922	953,437
1923	635,624
1924	826,360
1925	947,623
1926	956,576
1927	948,318
1928	948,510
1929	957,995
1930	1,549,289
1931	2,510,658
1932	2,039,670
1933	2,997,445
1934	5,675,875
1935	2,844,481
1936	5,278,970
Grand total	$33,598,107

For this reason Nevada depended largely upon the assistance proffered by the National Government. This help, extended in the same proportion to other States, provided the means with which Nevada could plan and build these arteries of commerce on a standard set by the Federal Bureau of Public Roads.

Nevada has accomplished much with its Federal financial help, and as a consequence has built up a system of good roads forming a State-wide network.

Three transcontinental hard-surfaced highways, of ample width and in excellent condition, cross the entire State to form a link in the continental chain. The Nevada link has been made safe for commercial as well as pleasure travel.

Distances form important factors in road building in the Sagebrush State. Two of the east and west cross-country units stretch across mountains, valleys, and deserts for over 400 miles. From the Utah State line on the east to the California line on the west both Lincoln and Victory Highways are now high-gear roads. Arrowhead Trail in the south, likewise, provides similar facilities for a length of 128 miles.

The north and south routes have similar conditions prevailing. One unit from the Idaho line to Glendale, in Clark County, where it joins the Arrowhead Trail, stretches out over a distance of nearly 500 miles—a distance comparable to that from Cleveland, Ohio, to New York City.

A parallel route in western Nevada also extends continuously for over 400 miles.

The above picture shows a stretch along the Victory Highway (U S 40) at a point west of Winnemucca, in Humboldt County, and a typical central Nevada scene. Winnemucca is the center of important mining, agricultural and cattle grazing interests.

To construct these highways by means of State funds alone was an impossibility.

Nevada therefore accepted and utilized the Federal funds allotted under the several Congressional Acts since 1917.

Since then appropriations for highways in the State have comprised regular Federal Aid, Federal Land, Forest Highway, Emergency and National Recovery Funds, and more recently Works Program Funds.

Under these various classifications, exclusive of the Forest Highway Funds, Nevada has been allotted since 1917 a total of $33,598,107.

(A table giving the yearly amounts is shown on page 5).

An examination of the yearly allotments indicates that Federal moneys increased very appreciably during the fiscal year 1930. This was due to an allotment of Federal Land Funds in addition to the regular Federal Aid Funds.

The large sums beginning in 1933, up to and including the present fiscal year, are a result of special governmental appropriations known as Emergency (1933), National Recovery (1934-1935), and Works Program (1936). The total amount for 1936 ($5,278,970) consists of $1,595,501 Federal Aid Funds, $553,135 Federal Land Funds, $2,243,074 Works Program Highway Funds, and $887,260 Works Program Grade Crossing Elimination Funds.

Average yearly State revenue available to the Department of Highways from gasoline tax, common carrier and license fees totals approximately $1,200,000. Of this amount approximately $700,000 is used for maintenance of highways, and the greater portion of the remainder for redemption of county-state highway bonds, purchase of equipment, right of way, preliminary surveys, administration, and engineering, leaving but a small sum available for actual new construction work. From this circumstance, the vital need for continuance of Federal Aid in the building of the State's Highway System is at once apparent.

THEY'LL OFFER PLENTY OF FIGHT TOO!

NEVADA, a desert State, paradoxical as it may seem, has lakes and streams which afford excellent fishing for the sportsman.

Pyramid, Tahoe, Topaz, Walker and the Ruby Lakes—and now the new Boulder Lake (Mead Lake) on the Colorado — as well as minor Nevada streams offer splendid opportunities for this thrilling sport.

Not only that, the fishing is good!

Perhaps the strangest place, and at the same time the most likely setting for good catches of extraordinary size, is Pyramid Lake.

Spread out over the desert, 35 miles northeast of Reno—and a good gravel-surfaced road leads right to the lake shore—the waters of this turquoise blue, crystal clear lake, of almost unbelievable depth, fills a hole 35 miles long by 12 miles wide, in western Nevada, completely surrounded by high, colorful mountains dotted with sagebrush.

Several islands — one a Government sanctuary for pelicans, another, pyramid-shaped, from which the lake derives its name—pierce these fresh waters and project skyward for several hundreds of feet.

The largest fresh-water trout in the world are caught here with hook and line. Cut throats and black-spotted trout are the more common variety. Besides there are plenty to be had—they strike viciously and often on artificial lures—and they'll vary in size from 1¼ up to 30 or 40 pounds. Ordinarily a five or ten-pound beauty will offer all the fishing fight any one could expect. It's just a matter of size and poundage at Pyramid. They have the most difficulty in finding small ones. In fact, one club at the lake offers prizes each year for the smallest fish caught during the season, which runs for eight months. During the past five years the prize winner for the smallest fish cashed in on catches varying from 1¼ to 6 pounds.

A 50-pounder is not at all a rarity at Pyramid Lake.

Truckee River, draining the eastern slope of the Sierra Nevada Mountains, in the Lake Tahoe country, feeds this dessicated remnant of a prehistoric lake, which, at one time, was as large as the present Lake Erie of the five eastern Great Lakes.

In a distance of less than 100 miles the drop in elevation between Tahoe and Pyramid is nearly 2,500 feet.

Pyramid is an excellent place to go for a rest and recreation. Dry, bracing air and a desert sun bring warm days, but the nights are cool and comfortable, and near the lake are located dude ranches and clubhouses equipped to outfit fishing trips, or supply horses for journeys into the neighboring mountains or along the pebbly shore line.

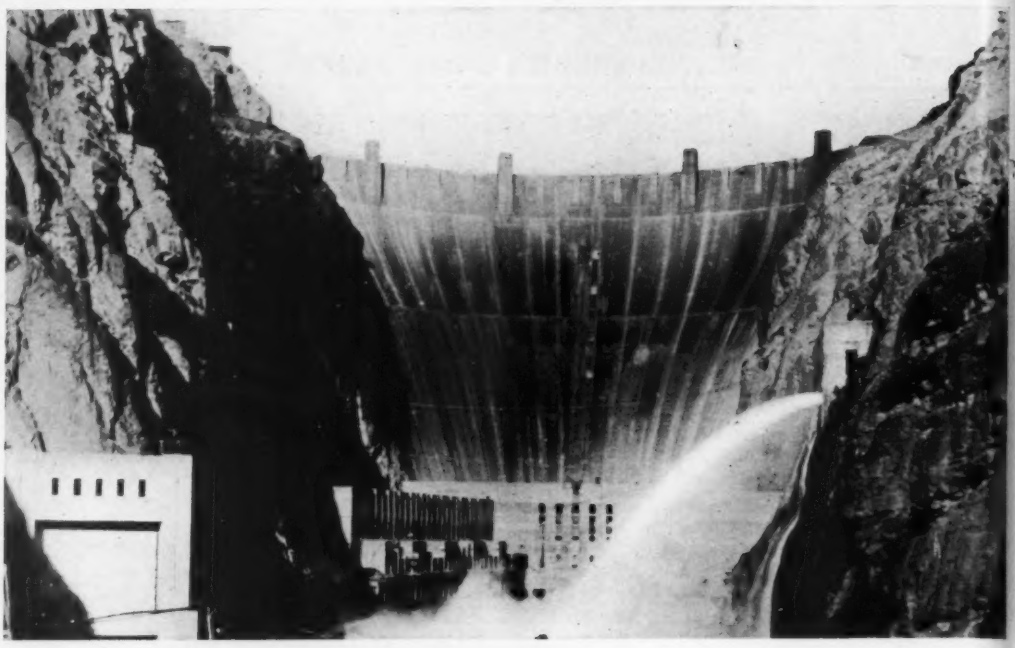
Lake Tahoe offers a decided contrast to Pyramid.

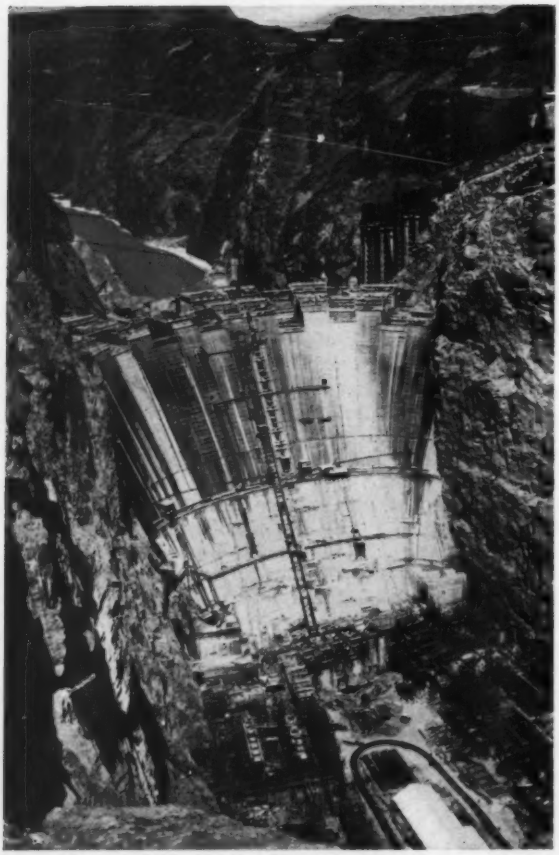
Surrounded by high- pine-covered hills, and nestled in the Sierras at an elevation of 6,225 feet, Tahoe's deep blue waters, stretching for 30 miles along the Nevada-California boundary with an irregular shore line and an extreme width of about 15 miles, offers excellent sport in fishing, as well as all other water sports. Boat and clubhouses are numerous along the Nevada shore and afford every comfort for the outdoor life.

To reach Tahoe from western Nevada a choice of several routes is offered. From Reno one can travel over the Victory Highway (U S 40), westward to Truckee and then turn south through heavy mountain forests, over an excellent branch road to the north end of Tahoe; another option is to climb the Mount Rose scenic road, ascending to nearly 10,000 feet, from which elevation beautiful panoramas of western Nevada unfold themselves, before dropping down on the west side of the summit and viewing the lake from far above the water's surface; still another choice is over a scenic route which connects Reno and western Nevada to the Nevada shore of Tahoe by traveling through Carson City and ascending over the high-gear Clear Creek Highway, to Glenbrook; or if one seeks a more thrilling, but slightly less comfortable route, the old Kingsbury Grade is unimproved but in fair condition and contacts the lake nearer the south end.

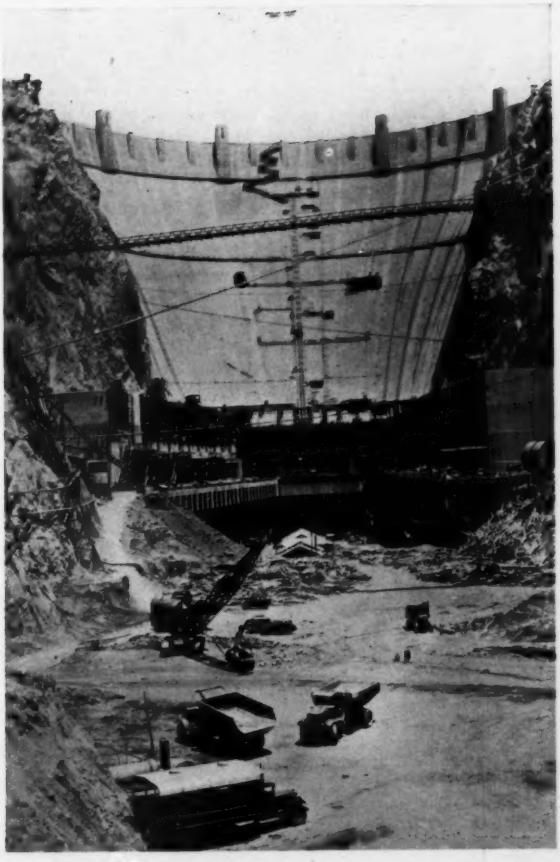
It matters little which route is selected; a scenic treat awaits the motorist on any one of the four mentioned.

Topaz Lake, in western Douglas County,





Upper left shows a recent view after the water poured through the first Boulder Dam bypasses. Upper right shows ent islands construction in the earlier stages of the world's largest dam. Bottom center shows view looking down the Colora iver. Bott



shows ent islands in Mead Lake which will become submerged when the lake reaches its normal level. Lower left shows Colora iver. Bottom right shows down-river side of the dam during construction progress of the power generating plant.

Castle Rock in Pyramid Lake. The ceaseless waves during the ages have sculptured this calcareous rock to give the impression of an ancient castle. Subsequent shore lines are distinctly marked and give evidence of the rapid processes of dessication.

is a little gem in the mountains and this lake likewise offers good fishing. Not comparable to Pyramid or Tahoe in size, nevertheless the scenic setting of Topaz fully lives up to its name. Fishermen can expect plenty of sport and few disappointments. Bait or lures will tempt the black-spotted lake, the rainbow, or the Locklaven trout, and don't be surprised if you snag one which pulls the scales at anywhere from 1½ to 10 pounds. It's being done each season.

Walker Lake on State Route 3, an excellent hard-surfaced highway skirting its shores, also offers good opportunities for piscatorial skill. Besides trout it's quite probable you'll find a gamey Walker Lake bass in the creel holding the day's catch.

Elko County, in the eastern part of the State, boasts of some very good fishing in the streams and in the Ruby Lakes set high up in the rugged Ruby Mountains. Good roads lead to these excellent fishing grounds and the bracing mountain air, and an outdoor camp will work up an appetite all set for the good-sized trout your hook might snag in these mountain lakes.

Boulder Lake, now Mead Lake, while at present more or less of an uncertain factor in the fishing picture, holds out great promise for this sport in the future.

The lake has been stocked, and, given time for these little fellows to grow and develop, fishing should prove an attraction of the first magnitude in the new artificial lake, which backs up 115 miles behind the great dam across the Colorado river. Before the dam was completed, the heavy silt-laden waters were not conducive to the development of fish in its stream. Because of the clear waters back of the dam, the whole fishing picture on the Colorado River will most surely be changed.

Recently a 16-pound white salmon was hooked a short distance below the dam indicating the possibility of a spawning ground miles above the river's mouth.

Along the Truckee, the Carson, and Walker Rivers, fly or bait fishing offers genuine sport, and these streams are readily accessible over good roads to reach any of the favored fishin' holes.

Fishing season in Nevada opens March 1, and runs to October 1.

A desert storm has whipped the waters of Pyramid Lake into an angry mood, but in passing has permitted the sun to paint a path of gold over the ruffled surface. Pyramid is but an hour's ride from Reno, in the western part of Nevada.

CHEAP POWER HELPS NEVADA MINING

POSSIBILITIES for development and production of mineral and metal deposits lying within a radius of 200 miles from Boulder Dam are brought closer to realization since completion of this gigantic Government project. Cheap power, as generated at the dam and then distributed by transmission lines to the various districts located in Nevada, combined with newly created transportation facilities afforded by the artificial lake backed up by the dam, will be the means of expediting this development.

Reports from various governmental agencies indicate that many deposits, some of very large extent, are to be found within power-reach of the new dam.

To take care of the mines already developed, as well as future prospects, ore reduction mills, smelting plants, and fabricating factory units are planned for the Las Vegas district, located 35 miles away.

Supplementing these facts with reports containing authentic data issued in a Bulletin of the Nevada State Bureau of Mines and the Mackay School of Mines, at Reno, on the Mineral Resources of Southern Nevada, the future commercial development of these natural resources has indeed an encouraging outlook.

Other reports from authenticated sources reveal the fact that since Boulder Dam backed the waters in the Colorado River to a distance of nearly 85 miles (at this writing), gold and silver deposits have been opened up in districts adjacent to the river. These deposits are being developed and operated successfully because of the availability of water transportation facilities.

Some of these deposits lying within four or five miles of the present lake shore line are, at the same time, isolated from main roads 20 to 25 miles distant.

Boulder Lake (now Mead Lake) furnishes one method of transportation insuring profitable operation.

Ores from these known deposits are

mined and hauled by truck to the lake shore, dumped on barges, towed down the lake to landings, transferred to other transportation facilities and shipped to smelters for reduction and refining.

Initial operations indicate a future major development.

A list of the minerals and metals found in this area, together with the known extent of some of the deposits, follows:

MANGANESE

Important deposits of manganese are found within 10 to 12 miles from Boulder Dam, in Nevada. At the present time ore in sight is estimated at 30,000 tons of somewhat less than 40 percent manganese. It is believed further investigation and development will materially increase this tonnage.

Another possible source of manganese occurs as oxides and manganosiderite in lead-zinc ore deposits now being extensively developed in the Pioche, Lincoln County, district.

LEAD AND ZINC

Large deposits of both lead and zinc occur at Pioche. At the present time 8,000 tons per month of crude lead-zinc ore are being shipped from this district for milling. A power line extending from Boulder Dam generating plant to this district will be utilized for milling production from this deposit.

The reserves of probable ore at Pioche have been estimated as far in excess of 15,000,000 tons developed by underground workings and churn drilling.

With the advent of cheap power, other deposits of lead and zinc ore in the Jack Rabbit, Comet and Groom districts may become productive. Already geophysical work in the Groom district indicates that it is possible to trace the mineralized veins over a very large area.

Further explorations in other districts of southern Nevada will probably add to the extent of known mineralized zones.

COPPER

Copper mines in the Ely district may be served in the future with Boulder Dam power. At the present time a power line is being run from the dam to the Pioche district. It is of such capacity as to allow for an extension northward in the future.

The estimated ore reserves in the Ely district are about 100,000,000 tons of 1.5 percent copper. Mining operations there are carried on by the open-pit method.

One copper company of the district is contemplating the erection of a milling and metallurgical plant and all are considering the refining and fabrication of copper products at or near Boulder Dam.

Gold is associated with this copper ore. The low-grade gold ores are not minable for gold alone but are suitable for fluxing purposes, and in this respect can be worked profitably.

The Mackay School of Mines report concerning copper, gives this additional information: "The Key West, or Copper King district south of Bunkerville, in Clark County, offers good possibilities of becoming a copper producing district. The combination of copper sulphide ores occurring in an area of granitic rocks with intrusive basic rocks is a favorable one. This district would be near the shores of the newly man-created lake."

Eldorado Canyon, 18 miles south of Black Canyon, the site of Boulder Dam, is also mentioned as a favorable location for copper deposits.

GOLD AND SILVER

Within a radius of 200 miles of Boulder Dam, there are a number of gold and silver producing mining districts. In Nevada these include the Yellow Pine, Searchlight, Eldorado, Goldfield, and Tonopah fields which have had an extensive development but still retain great potentialities.

IRON

Many large iron ore deposits exist within power transporting distances from the generating source at the dam. While the present known deposits lie in States adjacent to Nevada, the accessibility of the electric energy for refining, fabrication, and better transportation facilities will benefit the Boulder Dam section of Nevada. Further exploration in southeastern Nevada is expected to disclose similar deposits.

VANADIUM ORES

Occurrences of vanadium minerals have been reported from several mining districts. These minerals are usually of secondary importance to other minerals in

the same ore. However, vanadium ores occur in sufficient quantity to be considered of primary importance in the Goodsprings district of Nevada.

NICKEL ORE

One occurrence of nickel reported in southern Nevada is in the copper-nickel-platinum ore of a mine about 15 miles south of Bunkerville and east of the Virgin Valley. While not of commercial quantity at the present time, future explorations and treatment plants near production might develop its importance.

NONMETALLIC MINERALS

MAGNESITE AND BRUCITE

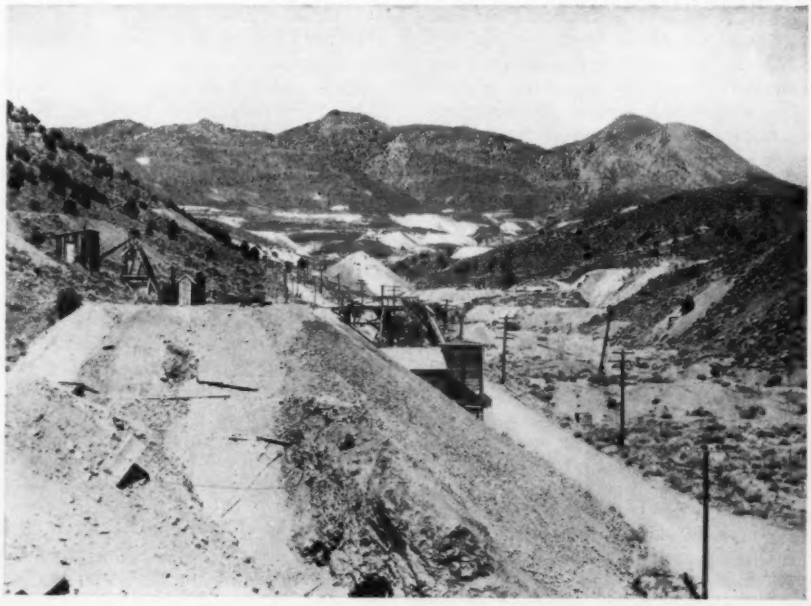
A large deposit of magnesite is found in the Muddy Mountains, not far from Overton, Nevada, about 60 miles from Boulder Dam. This deposit consists of a series of beds containing millions of tons of material with 30–40 percent MgO, 5–10 percent CaO, and 10–20 percent of SiO_2. The position of these beds is such that mining could be done at a very low cost. Transportation facilities are readily accessible.

A large deposit of brucite estimated to contain at least 3,000,000 tons occurs in the Paradise Range of northwestern Nye County.

As to the deposits of magnesite and aluminum in districts adjacent to Black Canyon, the Mackay School of Mines Bulletin has this to say:

"With the advent of the airplane, and the continued search for an extended use of lightweight alloys in all power generating machinery, there is an expanding use of the lightweight metals such as aluminum and magnesium. Commercial deposits of aluminum and magnesium ores in the vicinity of cheap electric power will surely be of future value."

The deposits of brucite in Nye County may be of instant value in combination with aluminum materials and cheap power in southern Nevada. [*Please turn to page 16*]



Out of the fissure on the side of Mount Davidson, shown in the upper right in the photograph, over a billion dollars in gold and silver have been taken since its discovery. This canyon, as shown, was the original pathway which led to the great bonanzas.

NEVADA ROAD CONDITIONS REPORT

IN the March issue of NEVADA HIGHWAYS AND PARKS it was indicated that a comprehensive report would be presented covering actual road conditions prevailing in State Department of Highways Divisions Four and Five. Division Three will be described in the July issue of this publication.

Information received regarding the condition of the highways and routes in the Ely and Tonopah districts was submitted to department headquarters early in April of this year, and presents a detailed picture of what tourists can expect during the heavy travel months of June, July, and August. Naturally there will be some stretches of construction, and portions of some roads will be freshly oiled, but the major sections will offer splendid touring possibilities.

In the east-central section of the State, from Railroad Pass via Austin, Eureka, and Ely to Wendover, except for a few minor failures, the oil-gravel surface highway is in splendid condition. Very little damage to shoulders and slopes has resulted due to weather conditions.

Aultman Street in the city of Ely remains unfinished, as does the oil-gravel surface of the Wendover overpass, but these will be taken care of as soon as warm weather permits a resumption of work. The above route is designated as State Routes 2 and 24, and U S 50.

The roadway beginning thirteen miles west of Caliente and extending into that town is in excellent condition. Extraordinary maintenance work on this route has been under way for several months, the labor having been secured from the Public Relief Rolls of Lincoln County. This work included widening and finishing fills and cuts to uniform lines and grades; also the construction and enlarging of channel changes to provide proper drainage as well as the building of dry rubble masonry walls to protect the roadbed itself. About six miles of this particular section has been worked over and the result is a marked improvement in general condition and appearance.

The portion of the highway between Caliente and Pioche, an oil-surface route, has been maintained in acceptable shape due to continued effort on the part of the highway crews in that particular district. Some surface failures and a breaking down of the edges of the oil covering constitute the major difficulties on this roadway.

From the town of Pioche to Stonehouse an oil-surfaced roadway will require some reconditioning during the warm summer months.

From Stonehouse to the east foot of Connors Pass, southeast of Ely, the original gravel surface is partially worn, and requires considerable dragging and raking in order to retain the same in good traveling condition. The contract for the reconstruction of the larger portion of this section was let on March 27, and the construction during the ensuing months should result in a marked improvement of this highway.

Extraordinary maintenance has kept the route leading from Connors Pass to Ely in splendid shape during the severe winter and spring months, and at the present time it appears adequate to take care of summer traffic.

Running north of Ely on Junction Route 24 to twenty-six miles south of Wells a gravel road has been maintained in excellent condition during the winter months.

In a southeasterly direction leading from Ely to Locke's Station in the northern part of Nye County, State Route 4, gravel surfaced for a greater portion of the distance, continues to offer acceptable roadway.

State Route 25 from Panaca to the Utah State Line has been kept in excellent shape during the winter months, and will be adequate for tourist travel during the ensuing season.

During the last month, fair weather has prevailed in State Highway Division Four and consistent maintenance activities were carried on.

The highway from five miles north of Hawthorne via the Naval Munitions Depot to Kinkead and on to Coaldale, Nevada, is an oiled roadway presenting splendid traveling conditions. A short section of this route remains to be oiled, and this improvement will be taken care of early this summer. When this is completed,

Boating up the Colorado is fast becoming a popular sport since Boulder Dam blocked the river and formed a great artificial lake. Even now power boats can ascend the river through Boulder and Iceberg Canyons up to the south end of the Grand Canyon itself, a trip which unfolds gorgeous views seldom seen before by mankind.

together with the final reconstruction of the sections between Goldfield and Beatty, Nevada will have one of the fastest and most modern north and south highways in the country. The safe travel time between Las Vegas and Reno, a distance of 446 miles, is 8½ hours at present. This time will be slightly reduced when the above improvements are completed.

The southern extremity of the highway from Beatty on into Las Vegas is Class "A" roadway, and in fine shape.

The roads leading out of Division Five to the California State Line are as follows:

Lida Junction to State Line, Route 3—This section is semi-improved and in good condition.

The highway from Coaldale to the California State Line, via Montgomery Pass, recently has been reconstructed and oiled and offers one of the most popular routes for both winter and summer traffic.

From Tonopah to Locke's Station on the Ely road, the highway is in acceptable condition due to continued maintenance. This is also true of the roadway leading from a point eight miles north of Tonopah to twenty-five miles south of the mining town of Manhattan.

The Nevada State Highway System, in Divisions Four and Five, offers better conditions for 1936 summer travel than ever before.

SOME NEVADA FACTS

Nevada soil, where fresh water reaches it, is surprisingly fertile. Irrigation is carried on in many sections, making the land so productive that the Sagebrush State stands very high on the list in wheat yield per acre.

Rivers of Nevada, with few minor exceptions, flow toward the center of the State and never reach the ocean. Several of the better known streams such as the Humboldt, Carson and Walker Rivers lose themselves in great "sinks" in the interior.

BOULDER DAM IS A BRIDGE

[*Continued from page 3*]

This new travel loop has, within the past few years, become increasingly popular for week-end trips, particularly during the winter season, when a visit to this lowest spot in the United States offers mild, comfortable weather conditions for recreational advantages. During late February and early March, Amargosa Desert presents a brilliantly colorful picture. Desert flowers in great profusion and gorgeous color, in full bloom, offer a rare sight indeed.

Winter resort hotels are located in Death Valley, and in addition to the panoramas of natural scenery, a golf course offers diversion for the visitor.

With Las Vegas and Boulder City forming the hub centers of these two great highway loops, serving both winter and summer travel, coupled with the commercial development possibilities arising through completion of Boulder Dam, the future of this section of Nevada is assured.

"FIELD LAB" GIVES SERVICE

Fully equipped to make soil analyses in addition to carrying drafting accessories for plotting geological classifications on charts, the Nevada Highway Department's traveling field testing laboratory was placed in service recently.

About ten feet long and seven wide, with plenty of room inside for persons to stand erect, the new two-wheel portable "Field Lab" has adjustable disc-bottomed metal posts at each outside corner for stabilization when detached from its towing car. A collapsible step at the rear entrance can be raised to prevent dragging while being moved from station to station. A window on each side and another in front provides ample light. The walls are of sheet metal insulated with cellulose fiber board.

The equipment includes a work bench across the front end of the trailer, a porcelain sink for use in making acid tests, and a "furnace" to generate heat during soil tests. A wide, adjustable drafting table is placed in front of a side window to facilitate the plotting of formations at selected stations.

This "Field Lab," an innovation in the department's field work, will supplement the existing facilities at headquarters and only such samples requiring closer study or finer determinations will be sent to Carson City. All others will be made in the field.

Practically all "shrinkage field moisture equivalent" tests can be made with the equipment carried on the trailer.

POWER HELPS MINING

[*Continued from page 13*]

GYPSUM

A large deposit of gypsum occurs at Arden, about 30 miles from Boulder Dam. One operator on this deposit produced from 2,000 to 5,000 tons per month. Although no estimate of the reserves have been made, a very large tonnage is indicated by the various exposures in this area.

Other deposits of gypsum occur along the old St. Thomas to Bitter Springs and Boulder Canyon road, above Mead Lake water line.

DOLOMITES AND LIMESTONES

Limestone is abundant in the vicinity of Boulder Dam. One deposit which is being worked at the present time occurs at Sloan, about 35 miles west. Another deposit has also been developed at Jean, which is about 12 miles south of Sloan. Both deposits have accessible railroad facilities.

The Sloan and Jean deposits can supply limestone for all purposes at a low cost, and the supply is unlimited.

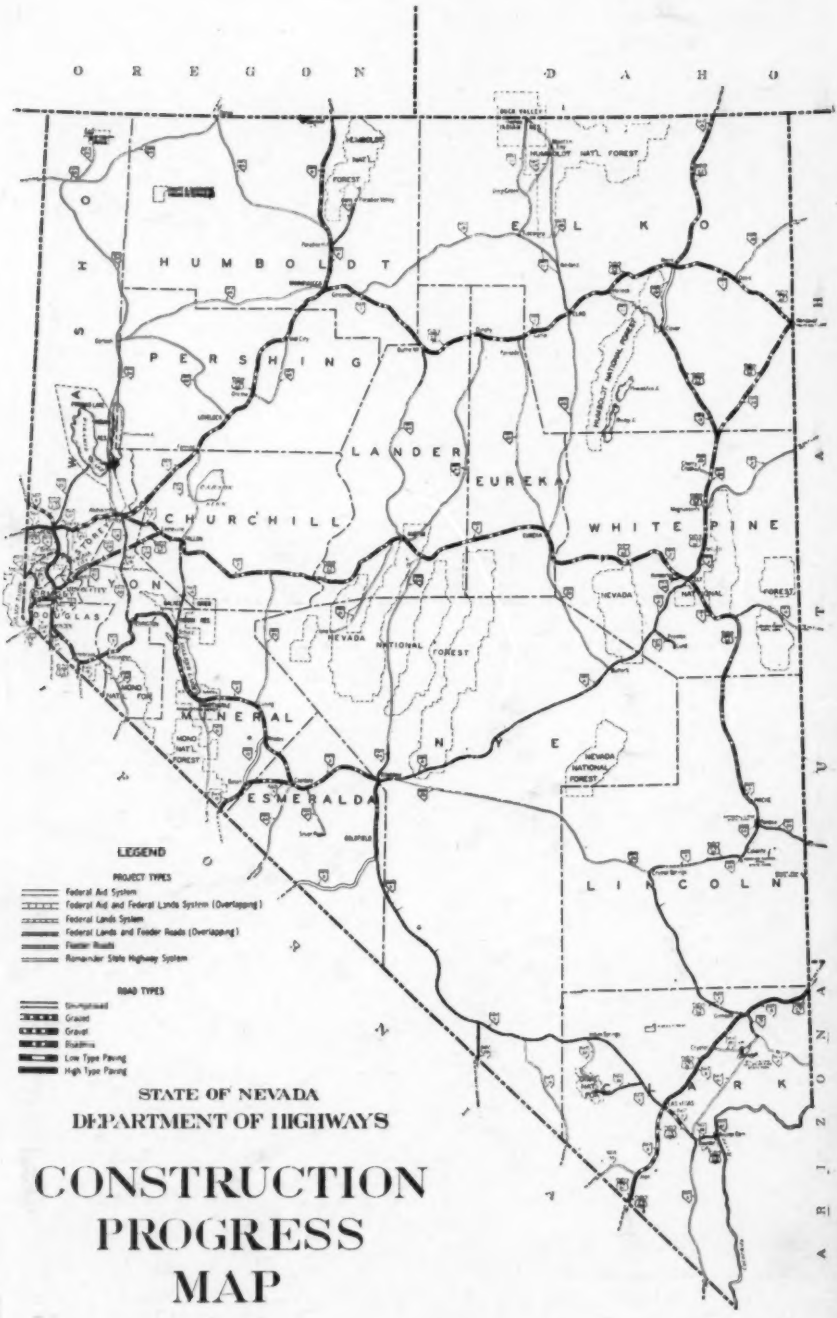
CYANITE

A deposit of cyanite exists 18 miles south of Beatty, Nevada. With an outlet in the manufacture of high temperature refractories at Boulder Dam, these deposits would warrant a greater amount of exploration and development work.

It is believed that within the Boulder Dam area there are important mineral and metal deposits about which, at present, little is known as to their extent or economic value. These can and should now be investigated in connection with their possible utilization when low cost power is available at Boulder Dam.

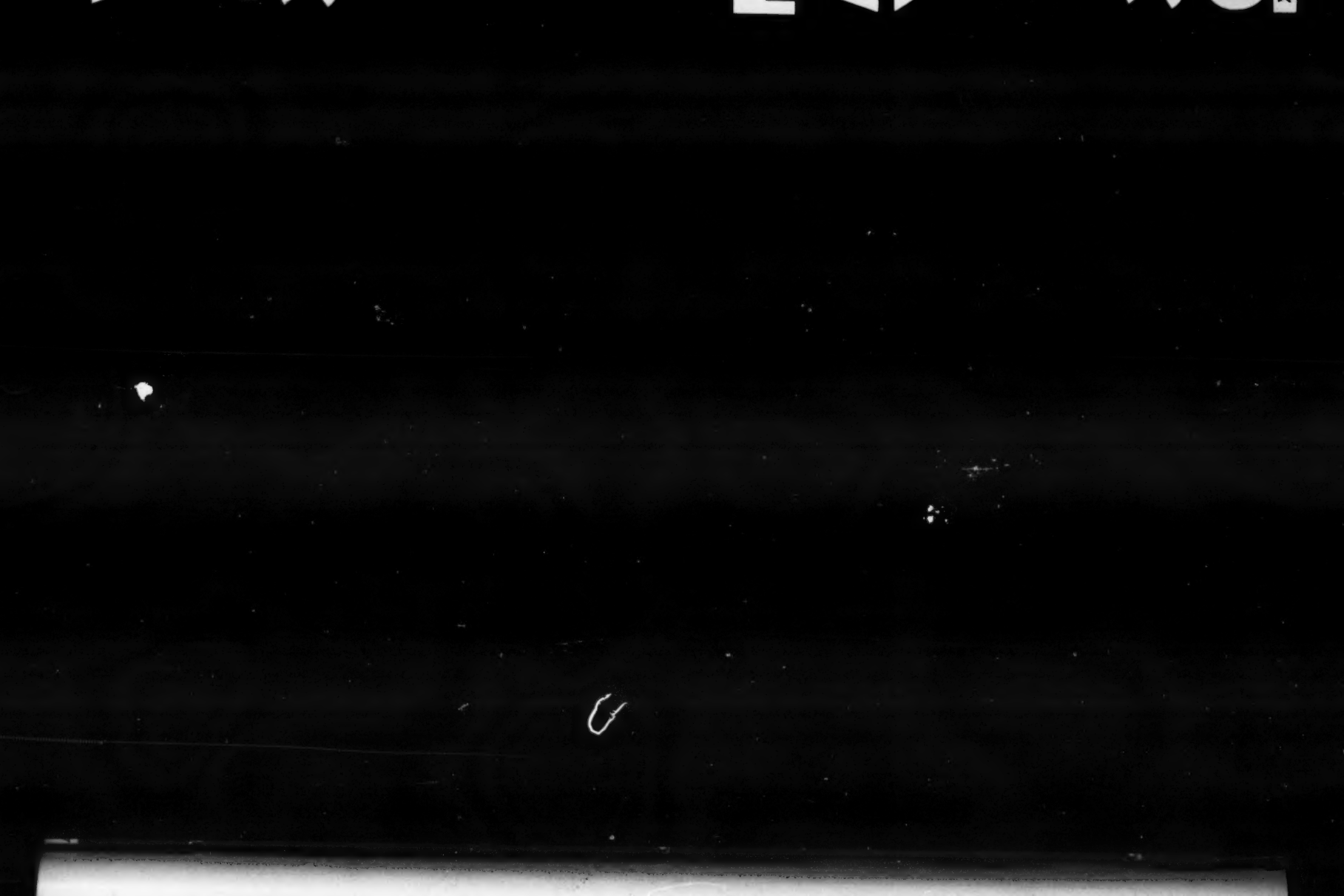
Death Valley, nearly 400 feet below sea level, the lowest part of continental United States, is shown in the above picture, as taken from the Chloride Cliffs of Nevada.

Showing the rugged terrain guarding the approach to this world-famous desert, Death Valley. Many vacationists find thrill and recreation here during the winter season.



STATE OF NEVADA

DEPARTMENT OF HIGHWAYS

CONSTRUCTION PROGRESS MAP

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